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Two new species of *Septobasidium* (*Septobasidiaceae*) from southern China

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Abstract — Two new species, *Septobasidium broussonetiae* on *Broussonetia papyrifera* associated with *Pseudaulacaspis* sp., and *Septobasidium meizhouense* on *Prunus mume* associated with *Pseudaulacaspis pentagona*, are described. They were collected from Guangxi Zhuang Autonomous Region and Guangdong Province respectively, southern China.

Key words — *Pucciniomycetes*, *Septobasidiales*, taxonomy

Previously, six species of *Septobasidium* have been recorded in Guangxi Zhuang Autonomous Region (Couch 1938, Tai 1979, Mo et al. 2008). They are: 1) *Septobasidium albidum* Pat. 1893, 2) *S. bogoriense* Pat. 1899, 3) *S. leucostemum* Pat. 1920, 4) *S. reinkingii* Couch ex L.D. Gómez & Henk 2004, 5) *S. sinense* Couch ex L.D. Gómez & Henk 2004 and 6) *S. tanakae* (Miyabe) Boedijn & B.A. Steinm. 1931. An additional new species on *Broussonetia papyrifera*, found from the region, is described as:

Septobasidium broussonetiae C.X. Lu, L. Guo & J.G. Wei, **sp. nov.** Figs. 1, 3–8

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Basidiomata resupinata, 1.5–7 cm longa, 1–3 cm lata, griseo-brunnea vel brunnea, margine determinata, spongiosa, superficie laevia, maturitate fissurata, interdum

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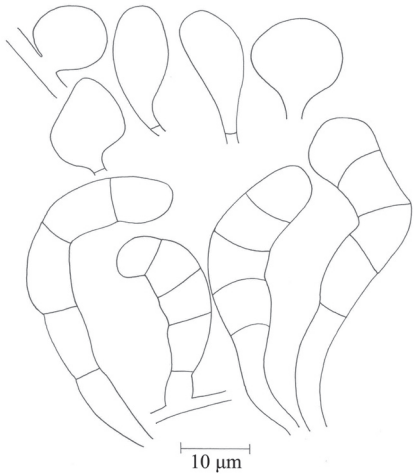


Fig. 1. Probasidia and basidia of *Septobasidium broussonetiae.* (HMAS 197043, holotype)

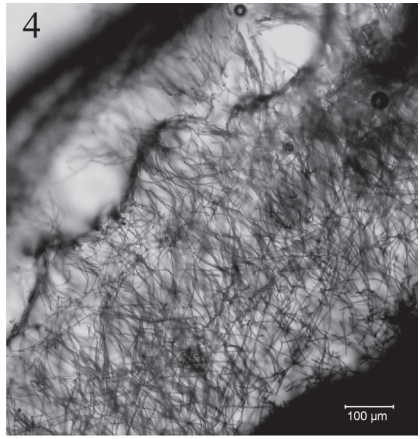
spinulosa, in sectione 770–1150 μm crassa. Subiculum brunneum, 35–70 μm crassum. Contextus 2–3-stratosus, stratis horizontalibus primariis 360–640 μm altis, secundariis 180–300 μm altis, tertiis 35–360 μm altis, saepe columnas formantibus. Hymenium 30–110 μm crassum. Probasidia pyriformia, subglobosa vel ovoidea, 9–16 × 7–12.5 μm, subhyalina vel brunneola, persistentia. Basidia cyclindrica, curvata, 4-cellularia, 24–28 × 6–7 μm, hyalina. Sterigmata conica, 2–3 μm longa. Haustoria ex hyphis irregulariter spiralibus constantia.

Type: On *Broussonetia papyrifera* Vent. (*Moraceae*): China, Guangxi, Nanning, Jiepai, 18.V.2009, J.G. Wei 2, HMAS 197043 (**holotype**), associated with *Pseudaulacaspis* sp. (*Diaspididae*).

Basidiomata on branches, resupinate, perennial, 1.5–7 cm long, 1–3 cm wide, greyish brown or brown; margin determinate, spongy; surface smooth at first, becoming broken by a few cracks at maturity, and sometimes spinulose near margin. In section 770–1150 μm thick. Subiculum brown, 35–70 μm thick. From the subiculum arise the fungal hyphae, occasionally form pillars, 360–640 μm high, branched outwards to form horizontal layer, from which the fungal hyphae renew growth to form the second layer, 180–300 μm high. The top layer is usually pillars, 35–360 μm high. Hymenium 30–110 μm thick. Probasidia pyriform, subglobose or ovoid, 9–16 × 7–12.5 μm, subhyaline or brownish; probasidial cell persisting. Basidia cylindrical, curved, 4-celled, 24–28 × 6–7 μm, hyaline. Sterigmata conical, 2–3 μm long. Basidiospores not seen. Haustoria consisting of irregularly coiled hyphae.

Figs. 3–8. *Septobasidium broussonetiae* (HMAS 197043, holotype). 3. Basidiomata on branches. 4–5. Sections of basidiomata. 6. Probasidia. 7. Basidia (arrows). 8. Haustoria.

3
0 1CM 2 3 4 5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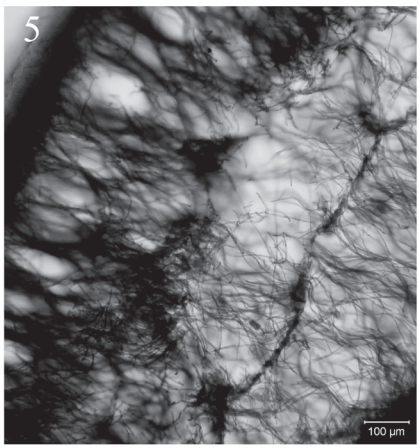
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6
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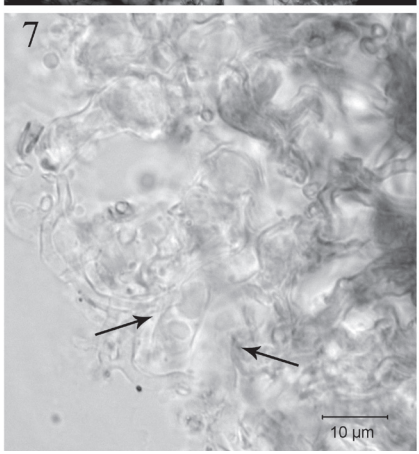
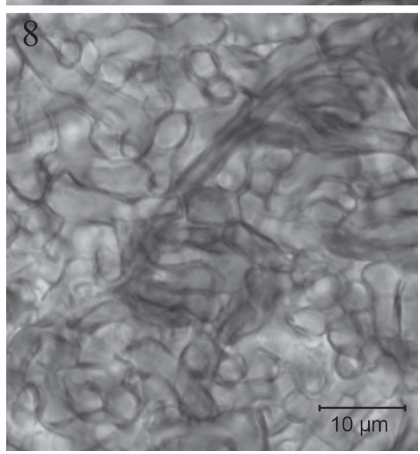

7
10 µm


8
10 µm

Remarks: *Septobasidium broussonetiae* is similar to *S. reinkingii* but differs mainly in producing persistent probasidia. *S. reinkingii* lacks a probasidial cell.

The second new species of *Septobasidium* on *Prunus mume* was collected from Meizhou in Guangdong province. The host plant is the official city flower and seriously affected by the felt fungus. It was reported as one of the main diseases of plum (Li 2008). We describe the new species as:

Septobasidium meizhouense C.X. Lu, L. Guo & J.B. Li, **sp. nov.** Figs. 2, 9–14

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Basidiomata resupinata, 4.5–16 cm longa, 1.5–3 cm lata, brunneo-grisea vel grisea, margine determinata, superficie primum laevia, deinde fissurata, in sectione 400–650 µm crassa. Subiculum brunneolum, 10–30 µm crassum. Contextus ex hyphis 220–440 µm longis laxe impletus vel interdum basi columnis 70–85 µm longis, 80–190 µm crassis praeditus. Hymenium 100–150 µm crassum. Sine probasidio. Basidia cyclindrica, leviter curvata vel recta, 4-cellularia, 27–37 × 6–8 µm, hyalina. Sterigmata conica, 2–3 µm longa. Haustoria ex hyphis irregulariter spiralibus constantia.

Type: On *Prunus mume* Siebold & Zucc. (*Rosaceae*): China, Guangdong, Meizhou, 23.V.2009, J.B. Li 1, HMAS 197041 (**holotype**), associated with *Pseudaulacaspis pentagona* (*Diaspididae*).

Basidiomata on branches, resupinate, 4.5–16 cm long, 1.5–3 cm wide, brownish grey or grey; margin determinate; surface smooth, cracked by fissures. In section 400–650 µm thick. Subiculum pale brown, 10–30 µm thick. From subiculum

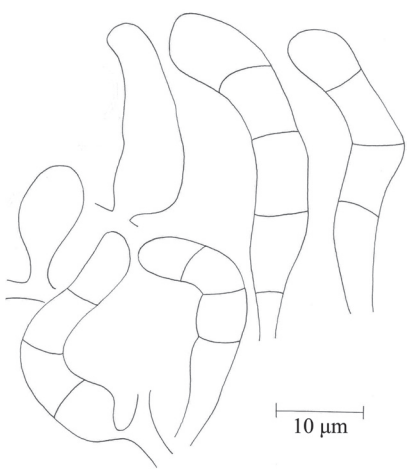
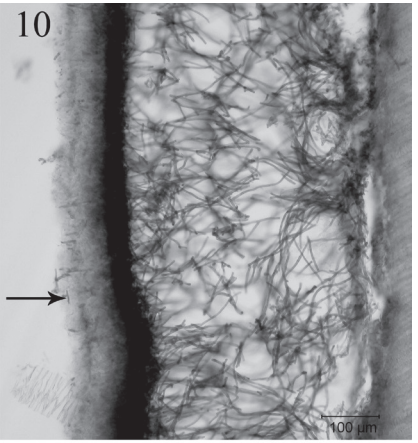
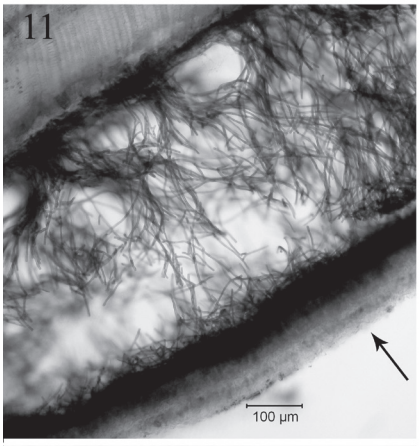


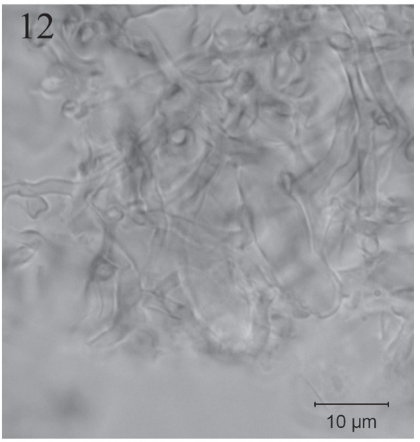
Fig. 2. Basidia of *Septobasidium meizhouense*. (HMAS 197041, holotype)

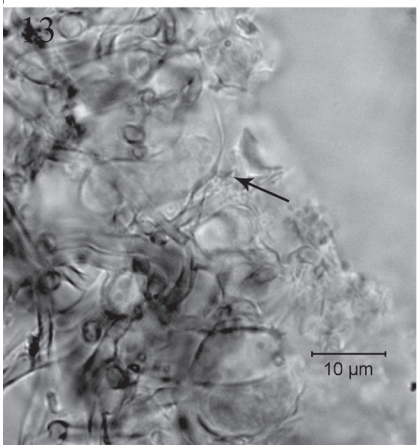
Figs. 9–14. *Septobasidium meizhouense* (HMAS 197041, holotype). 9. Basidiomata on branches. 10–11. Sections of basidiomata (hymenia, arrows). 12–13. Basidia (arrow). 14. Haustoria.

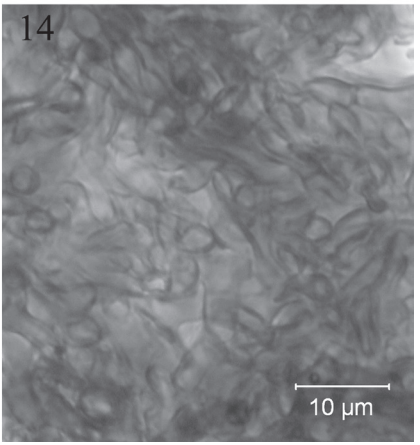
9
0 1cm 2 3 4 5


10
100 µm


11
100 µm


12
10 µm


13
10 µm


14
10 µm

loosely filled with 220–440 µm long hyphae or at the base with 70–85 µm long and 80–190 µm wide pillars. Hymenial layer 100–150 µm thick, hyaline at the top. Basidia arising directly from the hyphae without a probasidial cell; cylindrical, slightly curved or straight, 4-celled, 27–37 × 6–8 µm, hyaline. Sterigmata conical, 2–3 µm long. Haustoria consisting of irregularly coiled hyphae. Basidiospores not seen.

Remarks: *Septobasidium meizhouense* is similar to *S. pruni* C.X. Lu & L. Guo 2009, but the basidiomata differ in colour and thickness. Those of *S. meizhouense* are brownish grey or grey and 400–650 µm thick, while those of *S. pruni* are smoke brown or pale cinnamon brown and 170–330 µm thick.

To date, 21 species of *Septobasidium* have been reported in China (Sawada 1931, 1933, Couch 1938, Teng 1963, Tai 1979, Kirschner & Chen 2007, Lu & Guo 2009a,b,c) including the two new species in this paper.

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